



REDACTED VERSION

December 28, 2015

Service Request No: E1500973

Jacquelyn Young
San Jacinto River Coalition
3262 Westheimer Road #142
Houston, TX 77098

Laboratory Results for: San Jacinto River Coalition/ SJRC (b) (6)

Dear Jacquelyn,

Enclosed is the amended report for samples submitted to our laboratory on September 25, 2015. For your reference, these analyses have been assigned our service request number E1500973.

This amended report was revised to include the PCB results and full service report. Please replace Final_E1500973ak with the report enclosed.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-575-2279.

Respectfully submitted,

Arthi Kodur
Project Manager

ALS Environmental

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com.

ADDRESS 10450 Stancliff Road, Suite 210, Houston Texas 77099 USA | PHONE +1 713 266 1599

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Environmental

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9645152



October 23, 2015

Service Request No:E1500973

Jacquelyn Young
San Jacinto River Coalition
3262 Westheimer Road #142
Houston, TX 77098

Laboratory Results for: San Jacinto River Coalition

Dear Jacquelyn,

Enclosed are the results of the sample(s) submitted to our laboratory September 29, 2015
For your reference, these analyses have been assigned our service request number **E1500973**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2279. You may also contact me via email at Arthi.Kodur@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Arthi Kodur
Project Manager

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ALS Group USA, Corp.
dba ALS Environmental



Certificate of Analysis

ALS Environmental - Houston HRMS
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www.alsglobal.com

ALS ENVIRONMENTAL

Client:	San Jacinto River Coalition	Service Request No.:	E1500973
Project:	San Jacinto River Coalition/ SJRC (b) (6)	Date Received:	9/25/15-9/29/15
Sample Matrix:	Water		

ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at ALS Environmental – Houston HRMS on 9/25/15-9/29/15.

The samples were received between -1.8 to 0.4°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

The PCB fraction was sent to ALS Burlington for analysis by 1668A on 10/7/15 but required re-extraction. Additional sample was submitted to ALS Houston on 12/2/15. The results from the re-extraction are included in this report.

Samples were submitted to ALS Houston Full Service for 8270, 8260, and 6020. The results are included in the report as well.

Data Validation Notes and Discussion

Method Blank

The Method Blank EQ1500602-01 contained low levels of OCDD above the EDL, but below the Method Reporting Limit (MRL).

The associated compounds in the samples, regardless of concentration, are flagged with 'B' flags, which may be > or equal to 10 times the concentration in the MB.

MS/MSD

EQ1500602: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Manual Integrations

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

The TEQ Summary results for each sample have been calculated by ALS ENVIRONMENTAL/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- WHO-1998 TEFs, for PCBs, PCDDs, 21 PCDFs for humans and wildlife. (M. Van den Berg, et al., Environ Health Perspect 106: 775-792, 1998)
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)

Service Request:E1500973

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E1500973-001	1H	9/29/2015	1310
E1500973-002	2H	9/29/2015	1310
E1500973-003	SJRC (b) (6) #3H	9/29/2015	1300
E1500973-004	SJRC (b) (6) #4H	9/29/2015	1300
E1500973-005	SJRC (b) (6) #5H	9/29/2015	1300

Service Request Summary

Folder #: E1500973
Client Name: San Jacinto River Coalition
Project Name: San Jacinto River Coalition
Project Number: SJRC (b) (6)

Report To: Jacquelyn Young
 San Jacinto River Coalition
 3262 Westheimer Road #142
 Houston, TX 77098
 USA

Phone Number: 281-414-3194

Cell Number:

Fax Number:

E-mail: jeyoung@texanstogogether.org

Project Chemist: Arthi Kodur
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 09/29/15
Internal Due Date: 11/4/2015
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number:
EDD: No EDD Specified

3 40 mL-Glass Vial VOA AMBER Tef/Silicone Septa HCL
 4 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
 1 250 mL-Glass Bottle NM AMBER Teflon Liner HCL

Location: SMO, SUBBED, E-Disposed

Pressure Gas:

				HOUSTON		Houston Full Service
Lab Samp No.	Client Samp No	Matrix	Collected	Cl Biphen Cong/1668C	Dioxins Furans/1613B	Misc Out 1/None
E1500973-001	1H	Water	09/29/15 1310		IV	
E1500973-002	2H	Water	09/29/15 1310	IV		
E1500973-003	SJRC (b) (6) #3H	Water	09/29/15 1300			IV
E1500973-004	SJRC (b) (6) #4H	Water	09/29/15 1300			IV
E1500973-005	SJRC (b) (6) #5H	Water	09/29/15 1300			IV

Service Request Summary

Folder #: E1500973
Client Name: San Jacinto River Coalition
Project Name: San Jacinto River Coalition
Project Number: SJRC (b) (6)

Report To: Jacquelyn Young
San Jacinto River Coalition
3262 Westheimer Road #142
Houston, TX 77098
USA

Phone Number: 281-414-3194

Cell Number:

Fax Number:

E-mail: jeyoung@texanstogogether.org

Project Chemist: Arthi Kodur
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 09/29/15
Internal Due Date: 11/4/2015
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number:
EDD: No EDD Specified

3 40 mL-Glass Vial VOA AMBER Tef/Silicone Septa HCL
4 1000 mL-Glass Bottle NM AMBER Teflon Liner Unpreserved
1 250 mL-Glass Bottle NM AMBER Teflon Liner HCL

Location: SMO, SUBBED, E-Disposed

Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivola GCMS	CI Biphen Cong/1668C	1	sub to Burlington (ak 9/30/15)
Semivola GCMS	Dioxins Furans/1613B	1	full list(ak 9/30/15)

Superset Summary

Service Request: E1500973

SuperSet Reference: 15-0000351500 rev 00

Analytical Method: 1613B

Calibrations: 08/19/15

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P600919	P600911	P600942	E1500973-001
P600942	P600939	P600942	EQ1500602-01
P600966	P600954	P600942	EQ1500602-02
P600967	P600954	P600942	EQ1500602-03

Data Qualifiers

HRMS Qualifier Set

- B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
- E Estimated value. The reported concentration is above the calibration range of the instrument.
- H Sample extracted and/or analyzed out of suggested holding time.
- J Estimated value. The reported concentration is below the MRL.
- K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. Reported concentration is a conservative estimate, however EMPC correction was not applied.
- P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
- Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
- S Signal saturated detector. Result reported from dilution.
- U Compound was analyzed for, but was not detected (ND).
- X See Case Narrative.
- Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
 - i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCetration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2015
Arizona Department of Health Services	AZ0793	5/27/2016
Arkansas Department of Environmental Quality	14-038-0	6/16/2016
California Department of Health Services	2452	2/28/2017
Florida Department of Health	E87611	6/30/2016
Kansas Department of Health and Environment	E-10406	1/31/2016
Louisiana Department of Environmental Quality	03048	6/30/2016
Louisiana Department of Health and Hospitals	LA150026	12/31/2015
Maine Center for Disease Control and Prevention	2014019	6/5/2016
Maryland Department of the Environment	343	6/30/2016
Michigan Department of Environmental Quality	9971	6/30/2016
Minnesota Department of Health	840911	12/31/2015
Nebraska Department of Health and Human Services	NE-OS-25-13	6/30/2016
New Mexico Environment Department	TX02694	6/30/2016
New York Department of Health	11707	4/1/2016
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2016
Pennsylvania Department of Environmental Protection	68-03441	6/30/2016
Texas Commission on Environmental Quality	TX104704216-14-5	6/30/2016
United States Department of Agriculture	P330-14-00067	2/21/2017
Washington Department of Health	c819	11/14/2015
West Virginia Department of Environmental Protection	347	6/30/2016

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

E1500973

DB-5MSU

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
10/22/15	JL	-001

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
10/22/15	LKL	001



Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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DATE _____ PAGE _____ OF _____

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Chain of Custody Form

Page ____ of ____

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099

Customer Information			Project Information			Parameter/Method Request for Analysis												
Purchase Order		Project Name	San Jacinto River Coalition (b) (6)			A: SVOCs 8270												
Work Order		Project Number				B: VOCs 8260												
Company Name	ALS Houston Dioxins	Address	ALS Houston Dioxins			C: Metals + Mercury (Ba, Cd, Cr, Bo, Cu,Pb, Mn, Ni, Zn) 6020												
Send Report To	Arthi Kodur	Invoice Attn	Arthi Kodur			D: BTEX 8260												
Address	10450 Stancliff Road Suite 210	Address	10450 Stancliff Road Suite 210			E:												
City/State/Zip	Houston, Texas 77099	City/State/Zip	Houston, Texas 77099			F:												
Phone	281-575-2279	Phone	281-575-2279			G:												
Fax		Fax				H:												
e-Mail Address	arthi.kodur@alsglobal.com	e-Mail Address				I:												
						J:												
No.	Sample Description	Date	Time	Matrix	Pres	#Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	SJRC (b) (6) #3H	9-29-15	1:00 pm	Water		2	✓											
2	SJRC (b) (6) #4H	9-29-15	1:00 pm	Water		1			✓									
3	SJRC (b) (6) #5H	9-29-15	1:00 pm	Water		3		✓										
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:				Results Due Date:										
Jacquelyn Young Jackie Young				<input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour														
Relinquished by:	Date:	Time:	Received by:		Notes:													
Jackie Young	9-29-15	14:30	[Signature]															
Relinquished by:	Date:	Time:	Received by (Laboratory):		QC Package: (Check Box Below)													
			[Signature] 9/29/15 1431		<input type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like													
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		Cooler Temp: TRRP-Checklist TRRP Level IV													



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DATE _____ PAGE _____ OF _____

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Cooler Receipt Form

Project Chemist

AK

Client/Project

San Jacinto River Coalition

Thermometer ID

8MO 4

Date/Time Received:

9/29/15 1431

Initials:

ak

Date/Time Logged in:

Initials

1. Method of delivery:

☐ US Mail☐ Fed Ex☐ UPS☐ DHL☒ Courier☐ Client

2. Samples received in:

☒ Cooler☐ Box☐ Envelope☐ Other

3. Were custody seals on coolers?

☐ Yes☒ No

If yes, how many and where?

None

Were they intact?

☐ Yes☐ No☒ N/A

Were they signed and dated?

☐ Yes☐ No☒ N/A

4. Packing Material:

☐ Inserts☐ Baggies☒ Bubble Wrap☐ Gel Packs☒ Wet Ice☐ Sleeves☐ Other

5. Foreign or Regulated Soil?

☐ Yes☐ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp. Blank?
<u>N/A</u>		<u>9/29/15</u>	<u>1431</u>	<u>ak</u>	<u>-1.2</u>	<input type="checkbox"/>
<u>N/A</u>		<u>9/29/15</u>	<u>1431</u>	<u>ak</u>	<u>-1.8</u>	<input type="checkbox"/>
			<u>1430</u>			<input type="checkbox"/>
						<input type="checkbox"/>

6. Were custody papers properly filled out (ink, signed, dated, etc)?

☒ Yes☐ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)?

☒ Yes☐ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)?

☒ Yes☐ No

9. Were appropriate bottles/containers and volumes received for the requested tests?

☒ Yes☐ No

10. Did sample labels and tags agree with custody documents?

☒ Yes☐ No

Notes, Discrepancies, & Resolutions:

Service request Label:

E1500973**5**San Jacinto River Coalition
San Jacinto River Coalition



Cooler Receipt Form

Project Chemist

AK

Client/Project

SSRC

Thermometer ID

SMO 4

Date/Time Received:

12/2/1512:55

Initials:

AL

Date/Time Logged in:

12/2/15

Initials

AL1. Method of delivery: ☐ US Mail ☐ Fed Ex ☐ UPS ☐ DHL ☐ Courier ☒ Client2. Samples received in: ☒ Cooler ☐ Box ☐ Envelope ☐ Other

3. Were custody seals on coolers?

☒ Yes☐ NoIf yes, how many
and where?2 seals

Were they intact?

☒ Yes☐ No☐ N/A

Were they signed and dated?

☒ Yes☐ No☐ N/A4. Packing Material: ☐ Inserts ☐ Baggies ☒ Bubble Wrap ☐ Gel Packs ☒ Wet Ice ☐ Sleeves ☐ Other

5. Foreign or Regulated Soil?

☐ Yes☒ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
		<u>12/2/15</u>	<u>13:00</u>	<u>AL</u>	<u>2.3/3.3</u>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>

6. Were custody papers properly filled out (ink, signed, dated, etc)?

☒ Yes☐ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)?

☒ Yes☐ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)?

☒ Yes☐ No

9. Were appropriate bottles/containers and volumes received for the requested tests?

☒ Yes☐ No

10. Did sample labels and tags agree with custody documents?

☒ Yes☐ No

Notes, Discrepancies, & Resolutions:

additional sample for PCB analysis

Service request Label:



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Houston, TX 77099
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www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample. The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report



Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 246602
Team: Semivoa GCMS/LMCCRINK

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method Sep Funnel/Jar

Status: Prepped
Prep Date/Time: 10/8/15 07:50 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1500939-001	10615148	.01	1613B/Dioxins Furans	7	Water	998mL	Yellow Cloudy
2	E1500947-001	2096625 001	.01	1613B/Dioxins Furans	7	Drinking Water	1059mL	Clear Liquid
3	E1500972-001	1R	.01	1613B/Dioxins Furans	7	Water	1044mL	Clear Liquid
4	E1500973-001	1H	.01	1613B/Dioxins Furans	7	Water	1050mL	Clear Liquid
5	E1500990-001	15J0011-01	.01	1613B/Dioxins Furans	7	Water	997mL	Clear Liquid
6	E1501001-001	Aqueous MDL Study-001	.01	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
7	E1501001-002	Aqueous MDL Study-002	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
8	E1501001-003	Aqueous MDL Study-003	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
9	E1501001-004	Aqueous MDL Study-004	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
10	E1501001-005	Aqueous MDL Study-005	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
11	E1501001-006	Aqueous MDL Study-006	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
12	E1501001-007	Aqueous MDL Study-007	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
13	E1501001-008	Aqueous MDL Study-008	.02	1613B/Dioxins Furans	5	Water	1000mL	Clear Liquid
14	EQ1500602-01	MB		1613B/Dioxins Furans	5	Liquid	1000.0mL	
15	EQ1500602-02	LCS		1613B/Dioxins Furans	5	Liquid	1000mL	
16	EQ1500602-03	DLCS		1613B/Dioxins Furans	5	Liquid	1000mL	
17	R1505980-001RE	STE-07222015-24 HR	.01	1613B/Dioxin Furans Unadjusted	7	Water	1050.0mL	Clear Liquid

Preparation Information Benchsheet

Prep Run#: 246602

Team: Semivoa GCMS/LMCCRINK

Prep WorkFlow: OrgExtAq(365)

Prep Method: Method Sep Funnel/Jar

Status: Prepped

Prep Date/Time: 10/8/15 07:50 AM

Spiking Solutions

Name:	1613B/23/TO-9A MDL Native Solution	Inventory ID	78144	Logbook Ref:	0.02-0.2ng/mL LM 1/16/15	Expires On:	01/13/2016
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E1501001-001	100.00µL	E1501001-002	100.00µL	E1501001-003	100.00µL	E1501001-004	100.00µL	E1501001-005	100.00µL	E1501001-006	100.00µL
E1501001-007	100.00µL	E1501001-008	100.00µL								

Name:	1613B Matrix Working Standard	Inventory ID	84391	Logbook Ref:	84391 LM 9/21/15 2-20ng/ml	Expires On:	06/01/2016
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EQ1500602-02	100.00µL	EQ1500602-02	100.00µL	EQ1500602-03	100.00µL	EQ1500602-03	100.00µL
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Name:	8290/1613B Cleanup Working Standard	Inventory ID	84635	Logbook Ref:	10/01/2015 CID 8.0 ng/ml EXT	Expires On:	03/29/2016
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E1500939-001	100.00µL	E1500947-001	100.00µL	E1500972-001	100.00µL	E1500973-001	100.00µL	E1500990-001	100.00µL	E1501001-001	100.00µL
E1501001-002	100.00µL	E1501001-003	100.00µL	E1501001-004	100.00µL	E1501001-005	100.00µL	E1501001-006	100.00µL	E1501001-007	100.00µL
E1501001-008	100.00µL	EQ1500602-01	100.00µL	EQ1500602-01	100.00µL	EQ1500602-02	100.00µL	EQ1500602-02	100.00µL	EQ1500602-03	100.00µL
EQ1500602-03	100.00µL	R1505980-001	100.00µL								

Name:	1613B Labeled Working Standard	Inventory ID	84765	Logbook Ref:	LM 10/7/15 2-4ng/ml 84765	Expires On:	03/08/2016
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E1500939-001	1,000.00µL	E1500947-001	1,000.00µL	E1500972-001	1,000.00µL	E1500973-001	1,000.00µL	E1500990-001	1,000.00µL	E1501001-001	1,000.00µL
E1501001-002	1,000.00µL	E1501001-003	1,000.00µL	E1501001-004	1,000.00µL	E1501001-005	1,000.00µL	E1501001-006	1,000.00µL	E1501001-007	1,000.00µL
E1501001-008	1,000.00µL	EQ1500602-01	1,000.00µL	EQ1500602-01	1,000.00µL	EQ1500602-02	1,000.00µL	EQ1500602-02	1,000.00µL	EQ1500602-03	1,000.00µL
EQ1500602-03	1,000.00µL	R1505980-001	1,000.00µL								

Preparation Materials

Sensafe Free Chlorine WTR CHK	LM 3/19/15 (79756)	Carbon, High Purity	LM 9/1/15 (83844)	Ethyl Acetate 99.9% Minimum EtOAc	LM 10/8/15 (84814)
Glass Wool	CID 09/22/2015 (84411)	Sulfuric Acid Reagent Grade H2SO4	LM 3/4/15 (79265)	Hexanes 95%	10/7/15 DE (84759)
Dichloromethane (Methylene Chloride) 99.9% MeCl2	LM 10/5/15 (84703)	Sodium Hydroxide Reagent Grade NaOH	LM 09/02/14 (74232)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	LM 9/24/15 (84454)
Tridecane (n-Tridecane)	LM 8/27/15 (83731)	ColorpHast pH-Indicator Strips	AL 03/24/15 (79846)	Silica Gel	Carlos Diaz (84410)
Toluene 99.9% Minimum	JP 10-07-15 (84760)				

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	10/8/15 07:50	Started:	10/10/15 14:20 00:00	Started:	10/9/15 12:40	Started:	10/10/15 14:20
Finished:	10/8/15 09:40	Finished:	10/10/15 14:45 00:00	Finished:	10/9/15 14:10	Finished:	10/10/15 14:45
By:	LMCCRINK	By:	CDIAZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments	ak 10/12/15	Comments		Comments	

Preparation Information Benchsheet

Prep Run#: 246602
Team: Semivoa GCMS/LMCCRINK

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method Sep Funnel/Jar

Status: Prepped
Prep Date/Time: 10/8/15 07:50 AM

Comments: _____

Reviewed By: _____ak_____ Date: _____10/12/15_____

Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u> Yes No
Received By: _____	Date: _____	



Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water
Sample Name: 1H
Lab Code: E1500973-001

Service Request: E1500973
Date Collected: 09/29/15 13:10
Date Received: 09/29/15 14:30
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1050mL
Data File Name: P600919
ICAL Date: 08/19/15

Date Analyzed: 10/12/15 18:46
Date Extracted: 10/8/15
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P600942
Cal Ver. File Name: P600911

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.557	4.76			1
1,2,3,7,8-PeCDD	ND	U	0.544	23.8			1
1,2,3,4,7,8-HxCDD	ND	U	0.319	23.8			1
1,2,3,6,7,8-HxCDD	ND	U	0.325	23.8			1
1,2,3,7,8,9-HxCDD	ND	U	0.291	23.8			1
1,2,3,4,6,7,8-HpCDD	1.31J		0.260	23.8	1.15	1.000	1
OCDD	6.38BJ		0.743	47.6	0.88	1.000	1
2,3,7,8-TCDF	ND	U	0.450	4.76			1
1,2,3,7,8-PeCDF	ND	U	0.319	23.8			1
2,3,4,7,8-PeCDF	ND	U	0.313	23.8			1
1,2,3,4,7,8-HxCDF	ND	U	0.254	23.8			1
1,2,3,6,7,8-HxCDF	ND	U	0.241	23.8			1
1,2,3,7,8,9-HxCDF	ND	U	0.277	23.8			1
2,3,4,6,7,8-HxCDF	ND	U	0.250	23.8			1
1,2,3,4,6,7,8-HpCDF	0.747J		0.281	23.8	1.16	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.324	23.8			1
OCDF	1.02J		0.566	47.6	0.84	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water

Sample Name: 1H
Lab Code: E1500973-001

Service Request: E1500973
Date Collected: 09/29/15 13:10
Date Received: 09/29/15 14:30

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1050mL

Data File Name: P600919
ICAL Date: 08/19/15

Date Analyzed: 10/12/15 18:46
Date Extracted: 10/8/15
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P600942
Cal Ver. File Name: P600911

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.557	4.76			1
Total Penta-Dioxins	ND	U	0.544	23.8			1
Total Hexa-Dioxins	ND	U	0.311	23.8			1
Total Hepta-Dioxins	2.96J		0.260	23.8	1.09		1
Total Tetra-Furans	ND	U	0.450	4.76			1
Total Penta-Furans	ND	U	0.316	23.8			1
Total Hexa-Furans	ND	U	0.255	23.8			1
Total Hepta-Furans	0.747J		0.302	23.8	1.16		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water

Sample Name: 1H
Lab Code: E1500973-001

Service Request: E1500973
Date Collected: 09/29/15 13:10
Date Received: 09/29/15 14:30

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1050mL

Data File Name: P600919
ICAL Date: 08/19/15

Date Analyzed: 10/12/15 18:46
Date Extracted: 10/8/15
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P600942
Cal Ver. File Name: P600911

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1153.181	58		25-164	0.80	1.020
13C-1,2,3,7,8-PeCDD	2000	1524.894	76		25-181	1.57	1.182
13C-1,2,3,4,7,8-HxCDD	2000	1492.345	75		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1631.871	82		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1337.300	67		23-140	1.05	1.066
13C-OCDD	4000	2535.169	63		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1334.937	67		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	1511.057	76		24-185	1.57	1.140
13C-2,3,4,7,8-PeCDF	2000	1514.606	76		21-178	1.57	1.173
13C-1,2,3,4,7,8-HxCDF	2000	1399.824	70		26-152	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1489.119	74		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1452.784	73		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1437.273	72		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1183.965	59		28-143	0.44	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1148.091	57		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	499.814	62		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water

Sample Name: 1H
Lab Code: E1500973-001

Service Request: E1500973
Date Collected: 09/29/15 13:10
Date Received: 09/29/15 14:30

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.557	4.76	1	1	
1,2,3,7,8-PeCDD	ND	0.544	23.8	1	1	
1,2,3,4,7,8-HxCDD	ND	0.319	23.8	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.325	23.8	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.291	23.8	1	0.1	
1,2,3,4,6,7,8-HpCDD	1.31	0.260	23.8	1	0.01	0.0131
OCDD	6.38	0.743	47.6	1	0.0003	0.00191
2,3,7,8-TCDF	ND	0.450	4.76	1	0.1	
1,2,3,7,8-PeCDF	ND	0.319	23.8	1	0.03	
2,3,4,7,8-PeCDF	ND	0.313	23.8	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.254	23.8	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.241	23.8	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.277	23.8	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.250	23.8	1	0.1	
1,2,3,4,6,7,8-HpCDF	0.747	0.281	23.8	1	0.01	0.00747
1,2,3,4,7,8,9-HpCDF	ND	0.324	23.8	1	0.01	
OCDF	1.02	0.566	47.6	1	0.0003	0.000306
Total TEQ						0.0228

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water
Sample Name: 1H
Lab Code: E1500973-001

Service Request: E1500973
Date Collected: 09/29/15 13:10
Date Received: 09/29/15 14:30

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.557	4.76	1	1	
1,2,3,7,8-PeCDD	ND	0.544	23.8	1	1	
1,2,3,4,7,8-HxCDD	ND	0.319	23.8	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.325	23.8	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.291	23.8	1	0.1	
1,2,3,4,6,7,8-HpCDD	1.31	0.260	23.8	1	0.01	0.0131
OCDD	6.38	0.743	47.6	1	0.0001	0.000638
2,3,7,8-TCDF	ND	0.450	4.76	1	0.1	
1,2,3,7,8-PeCDF	ND	0.319	23.8	1	0.05	
2,3,4,7,8-PeCDF	ND	0.313	23.8	1	0.5	
1,2,3,4,7,8-HxCDF	ND	0.254	23.8	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.241	23.8	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.277	23.8	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.250	23.8	1	0.1	
1,2,3,4,6,7,8-HpCDF	0.747	0.281	23.8	1	0.01	0.00747
1,2,3,4,7,8,9-HpCDF	ND	0.324	23.8	1	0.01	
OCDF	1.02	0.566	47.6	1	0.0001	0.000102
Total TEQ						0.0213

1998 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: EQ1500602-01

Service Request: E1500973
Date Collected: NA
Date Received: NA

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000.0mL

Data File Name: P600942
ICAL Date: 08/19/15

Date Analyzed: 10/13/15 16:12
Date Extracted: 10/8/15
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P600942
Cal Ver. File Name: P600939

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.739	5.00			1
1,2,3,7,8-PeCDD	ND	U	1.23	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	0.424	25.0			1
1,2,3,6,7,8-HxCDD	ND	U	0.453	25.0			1
1,2,3,7,8,9-HxCDD	ND	U	0.397	25.0			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.605	25.0			1
OCDD	2.09J		0.619	50.0	0.87	1.000	1
2,3,7,8-TCDF	ND	U	0.707	5.00			1
1,2,3,7,8-PeCDF	ND	U	0.368	25.0			1
2,3,4,7,8-PeCDF	ND	U	0.379	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	0.202	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	0.191	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	0.223	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.194	25.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.275	25.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.324	25.0			1
OCDF	ND	U	0.647	50.0			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water

Service Request: E1500973
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ1500602-01

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000.0mL

Date Analyzed: 10/13/15 16:12
Date Extracted: 10/8/15
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P600942
Cal Ver. File Name: P600939

Data File Name: P600942
ICAL Date: 08/19/15

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.739	5.00			1
Total Penta-Dioxins	ND	U	1.23	25.0			1
Total Hexa-Dioxins	ND	U	0.423	25.0			1
Total Hepta-Dioxins	ND	U	0.605	25.0			1
Total Tetra-Furans	ND	U	0.707	5.00			1
Total Penta-Furans	ND	U	0.373	25.0			1
Total Hexa-Furans	ND	U	0.202	25.0			1
Total Hepta-Furans	ND	U	0.300	25.0			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: San Jacinto River Coalition
Project: San Jacinto River Coalition/SJRC (b) (6)
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: EQ1500602-01

Service Request: E1500973
Date Collected: NA
Date Received: NA

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000.0mL

Data File Name: P600942
ICAL Date: 08/19/15

Date Analyzed: 10/13/15 16:12
Date Extracted: 10/8/15
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P600942
Cal Ver. File Name: P600939

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1205.804	60		25-164	0.80	1.020
13C-1,2,3,7,8-PeCDD	2000	1543.149	77		25-181	1.59	1.183
13C-1,2,3,4,7,8-HxCDD	2000	1621.249	81		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1745.435	87		28-130	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1421.415	71		23-140	1.07	1.066
13C-OCDD	4000	2645.996	66		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	1392.112	70		24-169	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	1545.086	77		24-185	1.57	1.141
13C-2,3,4,7,8-PeCDF	2000	1533.219	77		21-178	1.56	1.173
13C-1,2,3,4,7,8-HxCDF	2000	1482.794	74		26-152	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1600.588	80		26-123	0.51	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1522.801	76		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1562.132	78		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1331.638	67		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1222.918	61		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	533.664	67		35-197	NA	1.021



Accuracy & Precision

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